



OFFICE OF THE CITY AUDITOR COLORADO SPRINGS, COLORADO

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17-02 Colorado Springs Utilities Nixon Emission Controls Audit

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Purpose

The purpose of this audit was to monitor construction of the Nixon Unit 1 Emissions Controls for SO₂ (sulfur dioxide) scrubber and ultra-low NO_x (nitrogen oxide) burners at the Ray Nixon Power Plant.

The scope of this 2016 audit was from the project inception through September 30, 2016.

Highlights

We conclude appropriate policies and procedures were in place relating to project management, governance, and reporting. Appropriate budget, financial and schedule controls have been implemented for both the SO₂ scrubber project and the ultra-low NO_x burners project. We monitored the procurement process for the ultra-low NO_x burners installation contract. Colorado Springs Utilities policies were followed and the selection process was fair and competitive. There were no reportable recommendations.

The installation of the emissions controls on Unit 1 of the Nixon Power Plant has been a multi-year construction project by Colorado Springs Utilities. Previous reports were issued in 2014 and 2015 on the procurement activities leading up to construction of the SO₂ scrubber. Two recommendations were made in the 2014 report and both were implemented. A follow-on audit will be performed covering project closeout and transfer to Colorado Springs Utilities.

Background

The installation of the controls for sulfur dioxide and nitrogen oxide emissions is required to comply with Colorado's Regional Haze State Implementation Plan. The Environmental Protection Agency (EPA) established the compliance date for Nixon Unit 1 SO₂ removal as December 31, 2017.

In anticipation of these requirements, Colorado Springs Utilities analyzed various emission control system options. The objective was to install the lowest overall cost control equipment considering capital and operating expenses, that ensures compliance with the regulatory requirement. The SO₂ scrubber project leadership selected technology that would retrofit the existing coal fired, electric generating unit with a system for control of sulfur dioxide and mercury emissions.

To achieve control of NO_x emissions, the lowest cost option was to reduce the formation of NO_x by installing ultra-low NO_x burners and an overfire air system.

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2016 Results

Major project activities during 2016 related to the construction and installation of the Nixon Unit 1 SO₂ scrubber and ultra-low NO_x burners. Our audit work focused on project controls including financial and schedule controls, project management, and governance activities as construction and installation progressed. We observed the procurement process for the Nixon ultra-low NO_x burners installation contract. We found the selection process to be fair and competitive.

Project closeout for the Nixon emission control program is scheduled to be completed by December 2017. Substantial completion is scheduled for September 2017 and final completion is scheduled for December, 2017. As of September 2016, the project was on schedule to meet those deadlines.

The estimated total direct project costs, as reported to the Utilities Board on February 2016, of the Nixon SO₂ scrubber and the NO_x burners was \$102 million. As of September 30, 2016, total spent for the Nixon SO₂ scrubber direct project cost to date was \$35.5 million and the Nixon ultra-low NO_x burner direct project cost was \$3.2 million for a combined total of \$38.7 million. Direct costs do not include overhead costs and interest during construction.

The Office of the City Auditor intends to audit the Nixon emission control program through completion. Our 2017 audit is planned to focus on start-up and commissioning of the Nixon SO₂ scrubber and ultra-low NO_x burners.

We appreciate the cooperation of project personnel during the course of this audit.